



# IPT Product Evaluation Survey Report

July 19-20, 2000

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NRL Monterey

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# FOR THE NEXT GENERATION NAVY NOWCAST

## Survey Form:

- 33 Product Examples:
  - 5 Data Display
  - 14 Product Examples
  - 7 Display Methods
  - 3 Interface Examples
  - 3 Verification Examples
  - 1 Other
- Each Product
  - For different customers
  - Excellent, Good, Fair, Poor (4 to 1 pts)
  - Comments



## Survey Form:

- 15 Participants Returned Survey:  
for each example
  - 7 METOC Personnel
  - 6 Warfighters
- Each Product
  - Different users want different products
  - Each return had its own scale
  - Some interesting points have emerged



## General Comments from the Survey:

- Not all products are for all the users (folders idea).
- As a tactical overlay: METOC Information should be integrated with tactical information (e.g. JTIDS, COP, PFPS, JMPS). Needs ship position.
- Bandwidth issue needs to be addressed. It won't do any good, if we can't deliver the product to the users.
- Some of the products are too busy and



## General Warfighter Comments from the Survey:

- Products should show information directly. Avoid drill-down if possible.
- Should consider the 2.5D visualization. It may be better than 3D.
- Adhere to convention of the MS windows headers (e.g. File, Edit. . .)



## General METOC Personnel Comments from the Survey:

- Products will have to be QA'ed before displayed in front of the operators.
- Need to think about other shipboard radars
- More Information to the Operators, less "data".



## Specific Warfighter Comments:

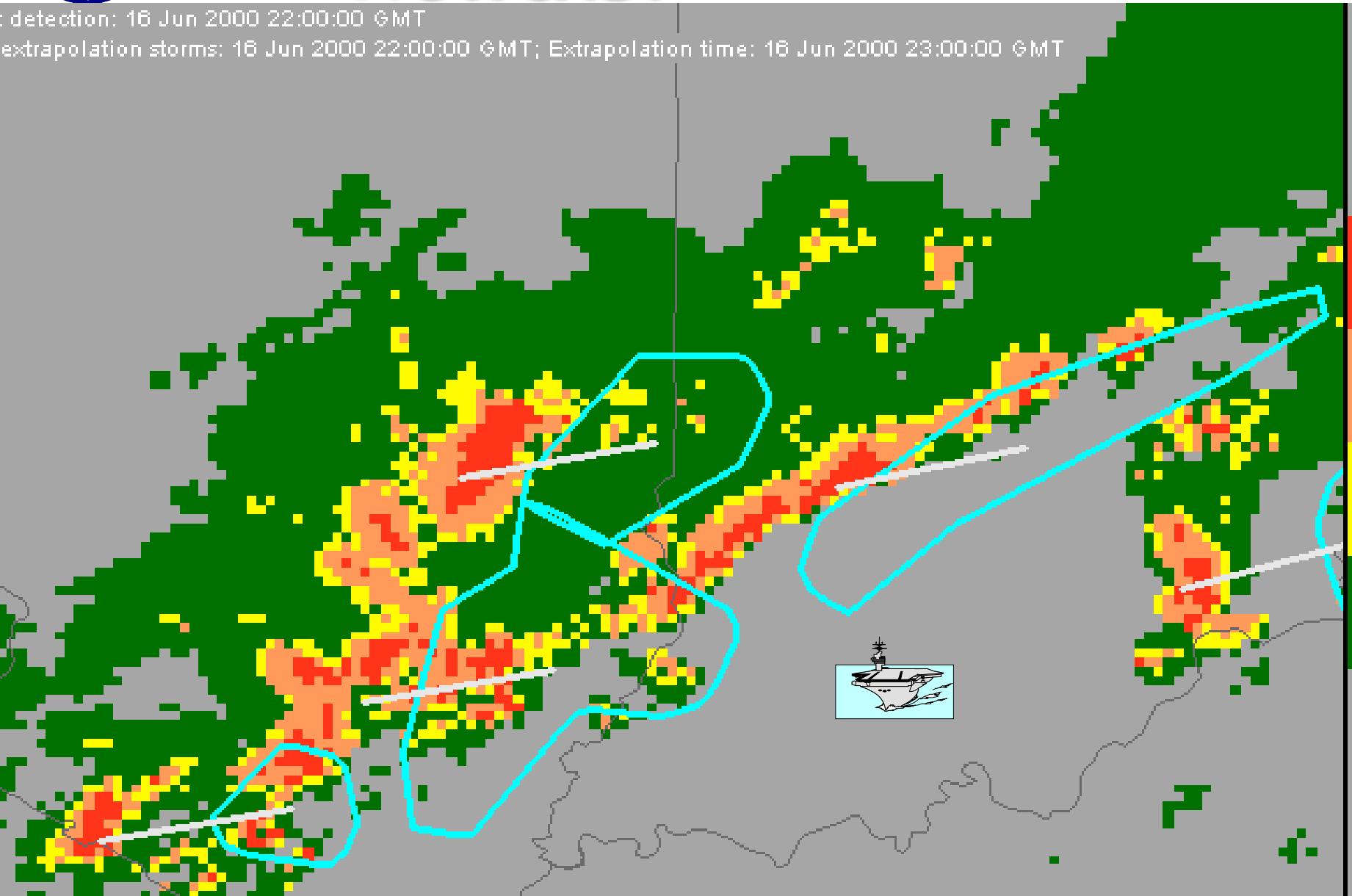
- **3.5 and Above:**  
Radar Display with Areal Forecast, Radar Image, Optimum routing, Users Folders
- **3.0 and Above:**  
Radar, Satellite, Pre-set Region, NOWCAST Display, 3-D (but no tools)
- **2.0 and Below:**  
Verification, Stoplight (briefing tools), Too Busy slides (Meteogram, Missile Trajectory, etc)



# FOR THE NEXT GENERATION NAVY NOWCAST

: detection: 16 Jun 2000 22:00:00 GMT

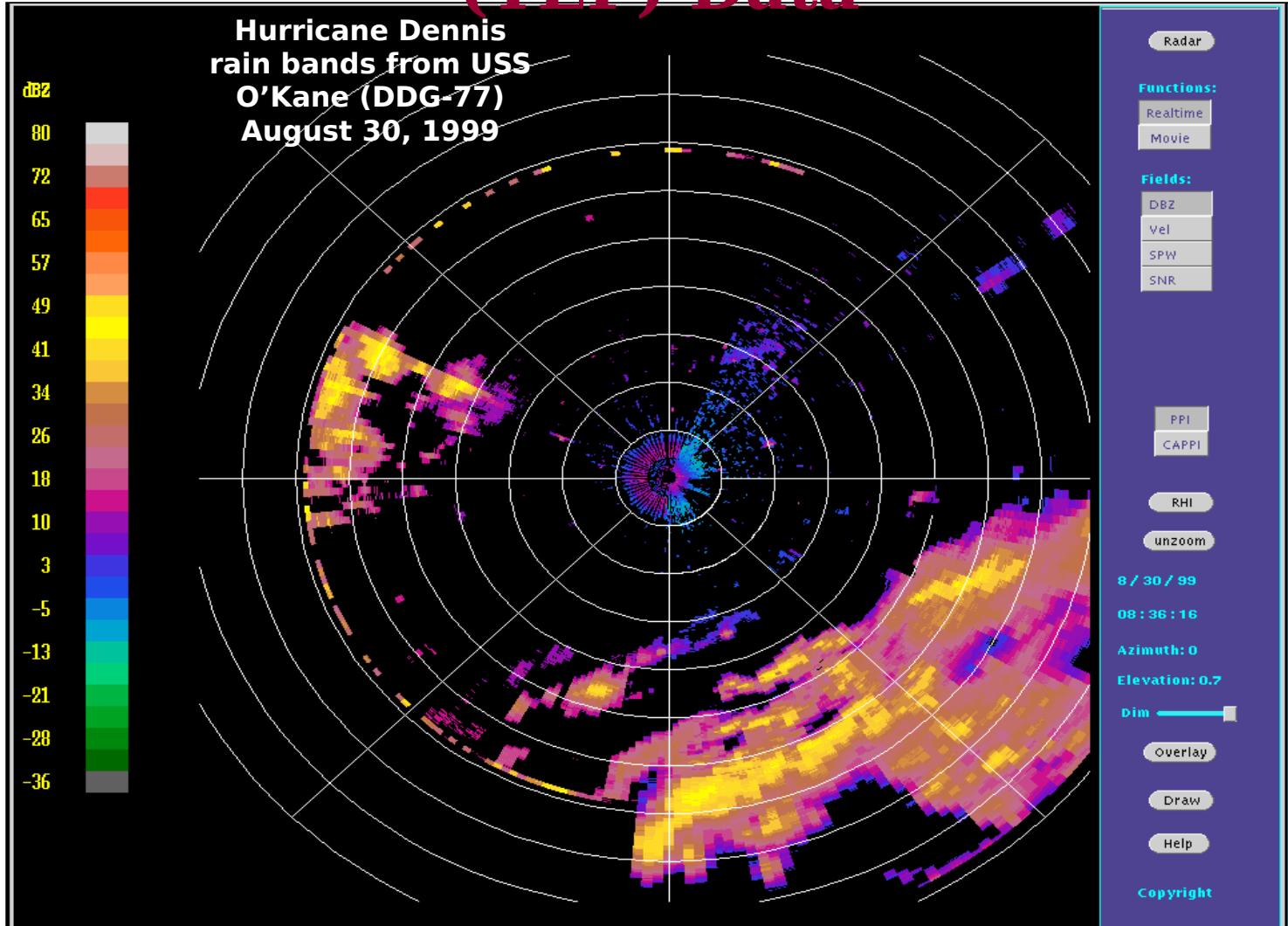
: extrapolation storms: 16 Jun 2000 22:00:00 GMT; Extrapolation time: 16 Jun 2000 23:00:00 GMT





FOR THE NEXT GENERATION NAVY  
**NOWCAST**

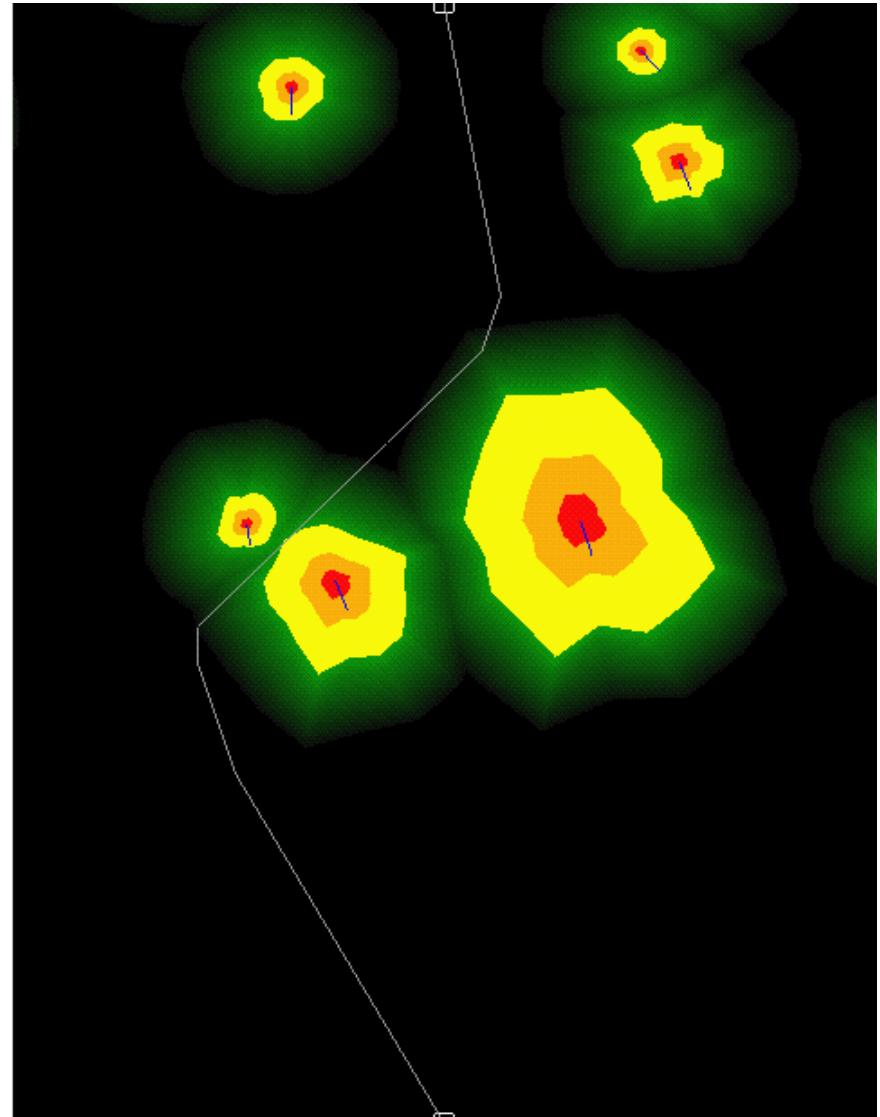
# SPY-1 Tactical Environmental Processor (TEP) Data





## Optimum Trajectory

- Dynamic weather impact areas to be avoided and/or exploited
- Moving ship





# FOR THE NEXT GENERATION NAVY NOWCAST

**Nowcast**

Select Product(s) Select a Region      Alert!

METARS Satellite Imagery Cloud Ceiling Horizontal Visibility

A map of the North Pacific Ocean showing numerous METARS locations marked with green circles and four-digit codes. The locations are scattered across the region, with concentrations around the coastlines and in the open ocean.

2000.07.11 at 12:41 PM PDT      36 57 26.23 N, 121 59 48.75 W

View Product Animation:         

Folders Comms Settings Help

Pre-defined Folders User-defined Folders

User Folder 1  
User Folder 2  
User Folder 3  
Create/Edit User-defined Folder

Battlegroup Mesonet Precipitation

LGA1	2010	2	2	77	9	12	1.
JFK1	2010	2	2	59	6	8	0.
EWR	2010	2	2	40	6	7	0.6 ...

Cross-Section

Time Series

Time Series 2



## Specific METOC Personnel Comments:

- **3.5 and Above:**  
Radar Image, Interface with User Selections, Model output (COAMPS winds).
- **3.0 and Above:**  
Radar product, Satellite, Model output (winds, wave, flight category, Meteogram), Stoplights, Pre-set regions
- **2.0 and Below:**  
Verifications.



# FOR THE NEXT GENERATION NAVY NOWCAST

**Nowcast Products Window**

Select Product Overlays:

METARS  
 Wind Barbs  
 Wind Streamlines

Select Stand-alone Products:

Satellite Imagery       Temperature  
 Humidity       Precipitation  
 Altimeter       Horizontal Visibility  
 Cloud Ceiling       Cloud Top  
 Cloud Base       Thunderstorm Autonowcaster  
 Radar       Icing  
 Turbulence       Wind Shear and Microburst  
 Cloud Type       Electromagnetic Duct Height  
 Optimal Trajectory       Heat Index  
 Illumination       Sunrise/Sunset Times

Select up to 5 stand-alone products and then click "Exit Select Products"  
(The number of overlay selections is not limited.) Selected products will be displayed in the Nowcast applet.

[Exit Select Products](#)

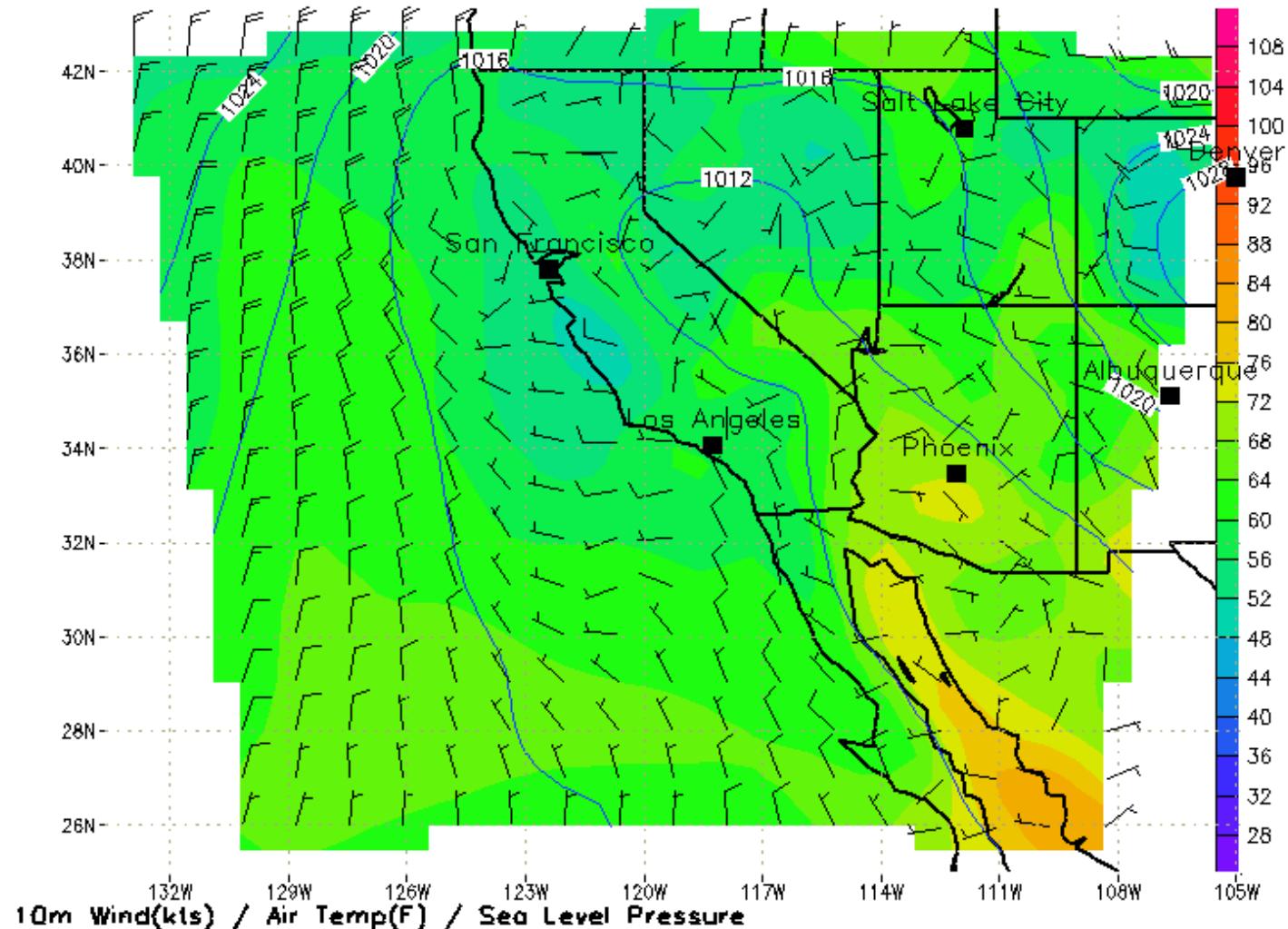
Java Applet Window



# FOR THE NAVY & MARINE CIVILATION NAVY MODEL ANALYSIS WINDS, AIR TEMPERATURE AND SEA LEVEL PRESSURE NOWCAST

COAMPS 2000071112 run 54km reslo  $\tau = 0$  h

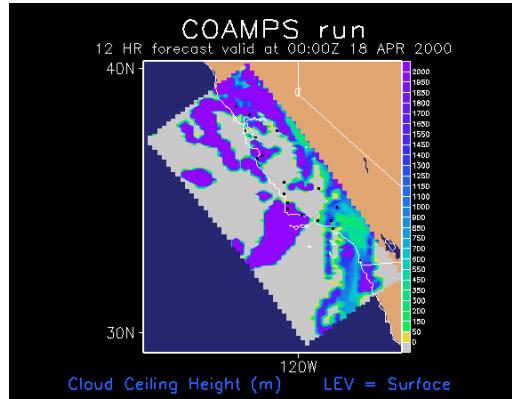
Verify: Tue 122 11 JUL





FOR THE NEXT GENERATION NAVY  
**NOWCAST**

# Potential Interactive Verification Procedure

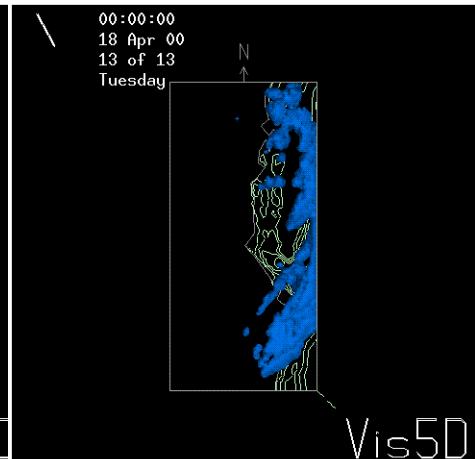
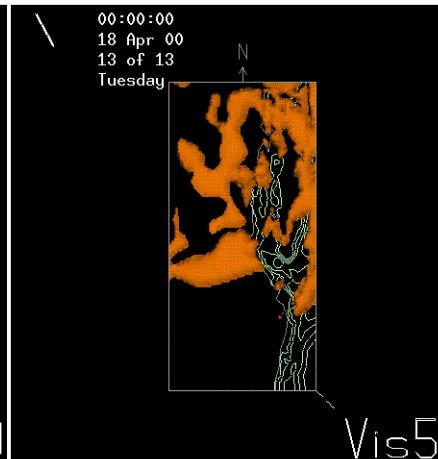
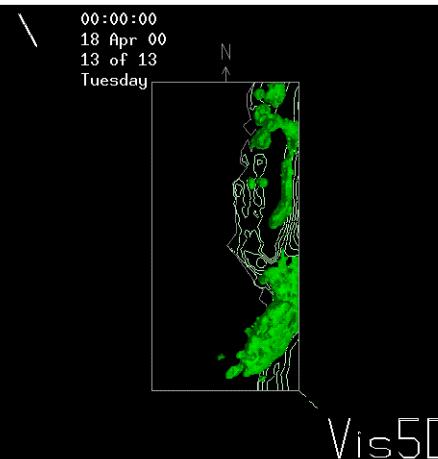
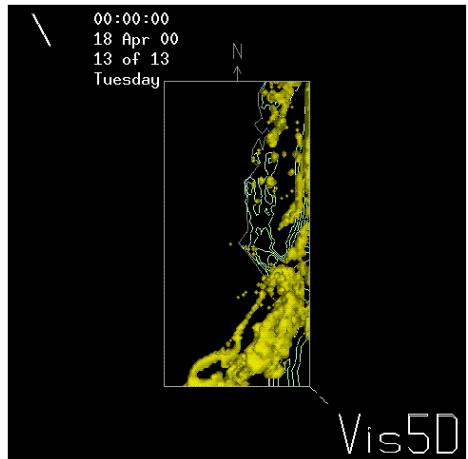


Cloud Water

Rain Water

Ice

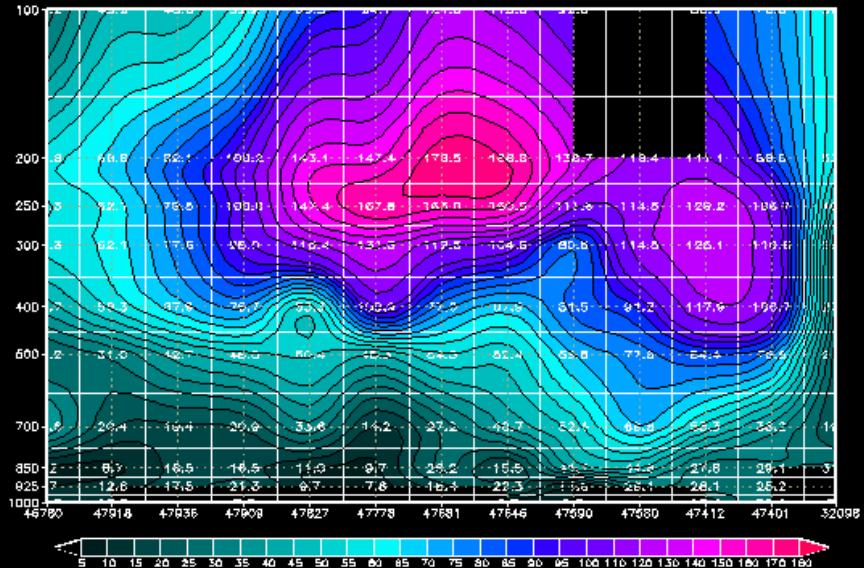
Snow



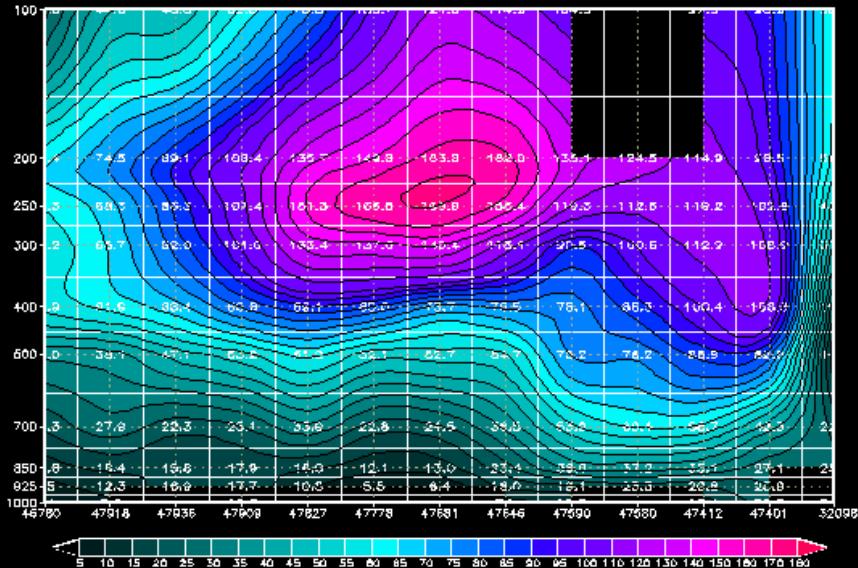
# Data Monitoring and Quality

## Observed Wind Speed Cross-Section Control Forecast Background Wind Speed

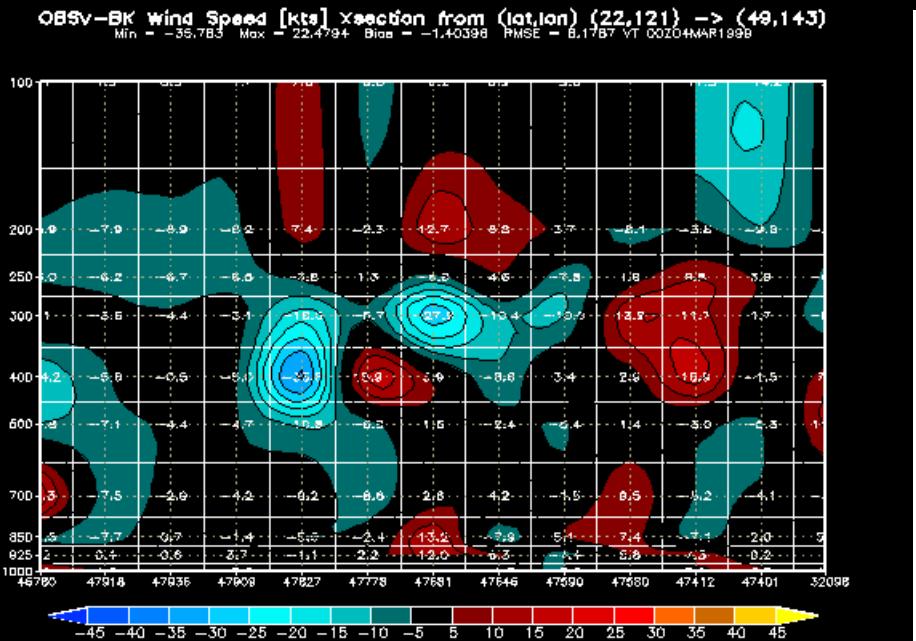
RAOB OBSv Wind Speed [kts] Xsection from (lat,lon) (22,121) -> (49,143)  
Min = 3.87488 Max = 176.542 Mean = 80.6751 SDEV = 41.8485 VT 00Z04MAR1999



NOGAPS T158L24 BK Wind Speed [kts] Xsection from (lat,lon) (22,121) -> (49,143)  
Min = 5.52273 Max = 189.884 Mean = 82.0688 SDEV = 41.8198 VT 00Z04MAR1999



Observation – Background  
Difference





## Common Points:

- Radar (Imagery, Time Evolution, 60-min Forecast, Areal Forecast),
- Satellite Imagery,
- 3-D Visualization,
- Interface: (User Folder/Selection, Pre-set Regions)
- Flight Category Display.



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## Different Opinions:

- **Warfighters**
  - Optimum Routing
  - Radar (Zoom)
  - METOC Symbolic Display
- **METOC Personnel**
  - Model Output (winds, Meteogram, wave, precipitation)
  - Missile Trajectory
  - Stoplight (regular, IWEDA)



## Summary (personal opinions):

- **Warfighters**
  - Simple display, tactical overlay
  - Current weather condition (no problem with just data)
  - Minimum manipulation
- **METOC Personnel**
  - Briefings requirements
  - More tools for details
  - Model output



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